the receiving side, each receiver in a group of dedicated receivers receive data from a

dedicated link, passes the data to nibble recovery system which generates the

transmitted four data streams and forwards them to Word Aligner 80. The function of

Word Aligner 80 is to recover the word that was transmitted from the Tx port. - -

In the Claims:

Cancel Claims 1-10 without prejudice.

Amend Claims 11 and 12 as follows:

1   11.   (Amended)   A method of processing data comprising the steps of:

2   receiving multiple streams of serial data;

3   generating from each one of the multiple stream of serial data a group of

4   parallel bit streams;

5   storing in a computer memory bit patterns representing different groups of

6   parallel bit streams;

7   searching the memory with a programmed computer to detect a predefined bit

8   pattern stored in each of said different groups;

9   determining misalignment between predefined bit patterns; and

10   using said programmed computer and the misalignment to adjust the

11   predefined bit pattern for all groups until said bit pattern is linearly aligned within said

12   computer memory.

1   12.   (Amended) The method of claim 11 wherein the predefined bit pattern

2   includes 0101.

Add the following new Claims 13-24:

1   13.   An apparatus comprising:

2   N data recovery systems, wherein N > 2 and each one of the data

3   recovery systems being operable to receive a serial data stream from a different

4   communication channel and to generate parallel data streams therefrom; and

5   an aligner operatively coupled to the N data recovery systems; said aligner

6   being operable to receive the parallel data streams, determine misalignment

7   between groups of bits received from each group of the parallel data streams and

8   to adjust the groups of bits relative to one another to remove the misalignment

9   therebetween.

1   14.   The apparatus of claim 13 further including a transmitting subsystem for

2   generating N serial data streams.

1   15.   The apparatus of claim 14 further including a high speed bus having a

2   plurality of the different communication channel operatively coupling the

3   transmitting sub-system to the N data recovery systems.

1   16.   The apparatus of claim 13 wherein each of the N data recovery systems

2   includes a receiver circuit; and

3   a nibble recovery circuit operatively coupled to generate one group of the

4   groups of bits.

1   17.   The apparatus of claim 13 wherein the aligner includes M groups of

2   multiple storage devices arranged in parallel; wherein M $\geq$ 2;

3   P multiplexers wherein each one of the P multiplexers is operatively

4   coupled to one of the M groups of multiple storage devices; and

5   a controller that generates control signals that drive each one of the

6   multiplexer to select and output data from one of the coupled multiple storage

7   devices.

1   18.   The apparatus of claim 17 further including a memory operatively coupled

2   to outputs of the P multiplexers and the controller.

1   19.   The apparatus of claim 18 wherein each one of the multiple storage

2   devices includes a plurality of serially connected multi-bit latches.

1   20.   A circuit arrangement to align groups of data bits comprising:

2   M parallel sets of multiple storage devices;

3   P multiplexers, wherein each of the P multiplexers is operatively connected to a

4   set of the M parallel sets of multiple storage devices;

5   a memory operatively connected to the P multiplexers, said memory being

6   operable to store the groups of bits outputted from said multiplexers; and

7   a controller operatively connected to determine the orientation of data in the

8   memory and generate control signals that causes the multiplexers to select storage

9   devices in each of the M parallel sets of multiple storage devices so that data from the

10   selected storage devices are arranged in a predefined orientation within said memory.